Abstract

Title:

Measurement of muscle activity during gait at patients with knock knees

Objective:

The aim of this study was to compare muscle activation between two groups of volunteers with and without knock-knees during level ground and incline walking on treadmill by surface electromyography. Muscles were measured on both legs, specificly tibialis anterior muscle, gastrocnemius lateralis muscle, vastus medialis muscle, adductor magnus muscle, semimembranosus muscle and tensor fasciae latae muscle. The goal of this experiment was to discover which muscles are more or less aktive according to the other group of participants. Then based on the conclusion could be possible to affect these changes by physiotherapy in future.

Methods:

The surface electromyography was used for measurement muscle activation. There were 12 volunteers, 9 women and 3 men, participate on this study in age from 21 to 27. Intermalleolar distance was used as a screening investigation for sorting into two groups whether the knock-knees are present or not.

Result:

There were different muscle activation between both groupes. Some muscles had increased activation others had lowest activation. However, this increase can be considered as statistically significant only in case of averrage amplitude muscle activity during midstance of step by 10 level ground strides in gastrocnemius lateralis muscle and tensor fasciae latae muscle on both legs.

Key words:

Knee, genu valgum, knock-knees, electromyography, gait